REMARKS

Reconsideration and allowance are respectfully requested. The Examiner is also asked to consider allowability of the pending claims in light of US 6,528,275 B1. This patent and the present application were filed in the name of Peptide Therapeutics Limited, and are now owned by Medivir UK Limited.

Applicants elected Group III and the species (A) four plates and (B) cysteinyl protease for examination. Applicants note the Examiner's statement that "cys-protease" is free of prior art and, thus, infer that examination has been expanded to generic limitations (e.g., enzymes, hydrolases, peptidases, proteases, etc.).

On March 31, 2005, the Examiner found that claim 15 is generic to a plurality of disclosed patentably distinct species:

A. "Kind of amino acid residues e.g., natural or non-natural amino acid"

B. "The number and combinations of amino acid residues in a well in each plate. (For example, 2 for A and 3 B for on a single well.)" and

C. "The length of a peptide in a library"

and required an election of a single disclosed species for each. In compliance thereto, Applicants elect the following:

A. Natural amino acids for the combinatorially variable part of the sequence which is recited in claim 15: —Bb—Cc—Dd—n(Ee)—. As explained below, however, a general combinatorial formula Aa—Bb—Cc—Dd—n(Ee)—Ff—Gg may include one or more non-natural amino acids at other positions. Thus, it is appropriate to include compounds which are a mixture of natural and non-natural amino acids in the library being screened.

B. For a standard 96-well plate in which the library probes tetramers for the combinatorially variable part of the sequence recited in claim 15, each well has compounds reflecting ten variants of the B residue (b = 10), ten variants of the C residue (c = 10), eight variants of the D residue (d = 8), and two variants of the D residue (e = 2); different plates will, of course, cycle through each of the various positions B, C, D or E to provide all combinations somewhere in the library) and, with respect to the general combinatorial formula: a = 1, f = 1, and g = 1. Thus,

the general combinatorial formula is A_1—B_{10}—C_{10}—D_8—E_2—F_1—G_1 and, more particularly, Abz—B_{10}—C_{10}—D_8—E_2—Tyr(NO_2)—Asp-NH_2.

C. Tetramers as regards the amino acid residues which are combinatorially varied (i.e., —Bb—Cc—Dd—n(Ee)—) and septamers as regards a general combinatorial formula (i.e., A_1—B_{10}—C_{10}—D_8—E_2—F_1—G_1). Only the former formula is recited in the claims so Applicants previously elected tetramers, but it appears that the Examiner is requiring an election for the length of a compound in the library. Therefore, septamers are elected for the species to be searched.

Note that the general combinatorial formula Aa—Bb—Cc—Dd—n(Ee)—Ff—Gg presupposes that there may be a FRET pair A and F (quencher), each of which may be a modified (i.e., non-natural) amino acid (e.g., Abz and Tyr(NO_2)). The formula further includes G, a typically polar, invariant amino acid (e.g., Asp) which many libraries will also have to improve solubility. In other words, while there are only four residues being combinatorially probed through the library, each compound could have at least seven residues in total (of which the FRET pair cannot be natural amino acids as elected in A).

On July 8, 2005, the Examiner required a further election of species: the "primary structure" of a single combinatorial tetramer of the library and the "amino acids for each of the positions of the tetramers" in that library. The primary amino acid structure of one compound of the library Abz—Val—Ala—Gln—Ser—Tyr(NO_2)—Asp-NH_2 (SEQ ID NO: 24) contains the tetramer —Val—Ala—Gln—Ser— (B = Val, C = Ala, D = Gln, and E = Ser). At each of the B, C, D and E positions, the amino acids may be any of the natural amino acids, although it should be appreciated that the combinatorially variable tetramer can be a mixture of natural and non-natural amino acids (see pages 55-58 of specification). As noted above, only B, C, D and E are recited in the claims but, as it appears that the Examiner will be searching septamer compounds, the further election of A = Abz, B = Tyr(NO_2), and G = Asp-NH_2, which are non-natural amino acids, is made.

Claims 15-20 read on the species elected for examination. Applicants reserve the right to prosecute non-elected subject matter in a further patent application.

Applicants earnestly solicit an early and favorable examination on the merits. The Examiner is invited to contact the undersigned if any further information is required.

Respectfully submitted,

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